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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/823,446	04/13/2004	David L. Patton	87472F-P	4851

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EXAMINER
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HRUSKOCI, PETER A

ART UNIT	PAPER NUMBER
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1724

DATE MAILED: 08/09/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b> 10/823,446	<b>Applicant(s)</b> PATTON ET AL.	
	<b>Examiner</b> Peter A. Hruskoci	<b>Art Unit</b> 1724	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 15 May 2006 and 19 June 2006.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-97 is/are pending in the application.
- 4a) Of the above claim(s) 30-51, and 54-95 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-29, 52, 53, 96, and 97 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

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Claims 17, 27, and 97 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. In claim 17 “the polymeric layer”, “the article”, and “the derivatized nanoparticles” lack clear antecedent basis. In claim 27 line 2 “in” is erroneous, and should be changed to – is -. In claim 97 “such as” is vague and indefinite because it is unclear how this term further limits the claim.

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

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Claims 1-8, 10, 12, 14, 24-26, 28, 52, and 53 are rejected under 35 U.S.C. 102(b) as being anticipated by Powell et al. 5,854,303. It is submitted that Powell et al. disclose (see col. 5 line 24 through col. 8 line 34) the structure of the container recited in the instant claims.

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 11, 17-23, 27, 29, and 96 are rejected under 35 U.S.C. 103(a) as being unpatentable over Powell et al. as above, in view of Teumac et al. 6,465,065. The claims differ from Powell et al. as applied above, by reciting that the polymeric or barrier layer is permeable to water, and the container comprises a bottle, and a cap is provided for sealing the bottle, and the sequestering agent is provided as an insert. Teumac et al. disclose (see col. 7 line 13 through

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col. 11 line 45) that it is known in the art to utilize a polymeric carrier including a polycarboxylic acid chelate composition in a coating or liner for a bottle or in a cap for the bottle. It is noted that the polymeric carrier of Teumac et al. is permeable to water, and the composition can be mounted on a support attached to a container lid. It would have been obvious to one skilled in the art to modify the container of Powell et al. by including the sequestering agent in the recited bottle, cap, and insert, in view of the teachings of Teumac et al., to aid in contacting the sequestrant with the liquid in the container. The specific thickness of the barrier layer, would have been an obvious matter of process optimization to one skilled in the art, depending on the specific liquid nutrient and results desired, absent a sufficient showing of unexpected results.

Claim 15 is rejected under 35 U.S.C. 103(a) as being unpatentable over Powell et al. as above, in view of DeVoe et al. 4,585,559. The claim differs from Powell et al. as applied above, by reciting that the sequestrant comprises a naturally synthesized siderophore molecule. DeVoe et al. disclose (see col. 2 line 41 through col. 4 line 62) that it is known in the art to utilize a siderophore chelating agent fixed to an insoluble carrier, to aid in inhibiting microbial growth in a liquid nutrient medium. It would have been obvious to one skilled in the art to modify the container of Powell et al. by including the recited siderophore sequestrant in view of the teachings of DeVoe et al., to aid in inhibiting microbial in the liquid nutrient.

Claims 9 and 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Powell et al. as above, in view of Cook. The claim differs from Powell et al. as applied above, by reciting that the sequestering agent comprises derivatized nanoparticles having an attached metal-ion sequestrant. Cook disclose (see col. 10 line 5 line 41 through col. 15 line 45) that it is known in the art to utilize chelating agents anchored to nanoparticles to form protective coating for

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surfaces. It would have been obvious to one skilled in the art to modify the container of Powell et al. by including the recited derivatized nanoparticles in view of the teachings of Cook, to aid in forming a protective surface for the container.

Claim 16 is rejected under 35 U.S.C. 103(a) as being unpatentable over Powell et al. in view of Cook as above, and further in view of Schiestel et al. 6,830,494. The claim differs from the references as applied above, by reciting that the sequestering agent is attached to the nanoparticle with a specific silicon alkoxide. Schiestel et al. disclose (see col. 3 lines 16-63) that it is known in the art to form a matrix with nanoparticles and silicon alkoxides, to provide the matrix with a chelating ligand. It would have been obvious to one skilled in the art to modify the references as applied above utilizing the recited silicon alkoxide in view of the teachings of Schiestel et al., to aid in attaching the sequestering agent to the nanoparticle.

Claim 97 is rejected under 35 U.S.C. 103(a) as being unpatentable over Powell et al. in view of Cook as above, in view of DeVoe 4,585,559. The claim differs from the references as applied above, by reciting that the sequestrant comprises siderophore molecule. DeVoe et al. disclose (see col. 2 line 41 through col. 4 line 62) that it is known in the art to utilize a siderophore chelating agent fixed to an insoluble carrier, to aid in inhibiting microbial growth in a liquid nutrient medium. It would have been obvious to one skilled in the art to modify the container of Powell et al. by including the recited siderophore sequestrant in view of the teachings of DeVoe et al., to aid in inhibiting microbial in the liquid nutrient.


The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Applicant's election without traverse of Group I, claims 1-29, 52, 53, 96, and 97 in the reply filed on 5/15/06 is acknowledged. The restriction requirement is made final.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Peter A. Hruskoci whose telephone number is (571) 272-1160. The examiner can normally be reached on Monday through Friday from 6:30AM-4:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Duane Smith can be reached on (571) 272-1166. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

  
Peter A. Hruskoci  
Primary Examiner  
Art Unit 1724

8/4/06